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ABSTRACT

A study was formally requested by the Kansas City Regional Council for Higher Education Institutional Research Directors' Group in the spring of 1990, to examine the economic impact of higher education on the Kansas City, Missouri and Kansas, metropolitan area. An economic impact model was used which includes the four major components of direct institutional, employee, student and visitor expenditures in the area, plus a multiplier (2.25) to account for additional business volume generated. Twelve colleges and universities and the University of Kansas Medical Center participated in the study and provided data on a standard survey form with an overall measure for all institutions aggregated from those worksheets. The results indicated that nearly $500 million of the metropolitan area's economy in 1988-1989 was a direct result of spending by higher education institutions, their students, employees, and visitors. When this spending was recycled through the area's economy in several rounds the multiplier effect produced a business volume of more than $1 billion. The institutions also generated over 40,000 full-time jobs, and a return of $3.73 dollars on every tax dollar spent to support higher education. In addition, institutions of higher education lying just outside the immediate metropolitan area and hence not included in this study can be presumed to also contribute to the metropolitan economy. Appendixes include a list of participating institutions, additional technical details and definitions, copies of the study survey and worksheet, and three references. (JB)

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THE ECONOMIC IMPACT OF HIGHER EDUCATION ON THE KANSAS CITY METROPOLITAN AREA 1988-1989

A Report Prepared by
The Kansas City Regional Council for
Higher Education
April 1991

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Preface

Economic impact studies are, by their nature, rather complex and somewhat theoretical. This report summarizes in non-technical terms the results of a study of the economic impact of the higher education institutions in and around Kansas City. Nonetheless, the report contains sufficient detail to document the methodology and results of the study should these be of interest. The report is divided into four major sections plus appendices:

1. **Introduction:** provides the context for the study, including both a rationale and background of economic impact studies.
2. **Methodology:** describes how the study was conducted, briefly outlines the model used, discusses the conservative nature of the study, and explains the concept of the multiplier.
3. **Major Findings:** provides results of the study for institutions of higher education in the immediate Kansas City metropolitan area; included are calculation of employment generated by higher education's economic activity and return on taxpayer investment for participating publicly supported institutions.
4. **The Added Impact of Outlying Institutions:** provides data similar to the previous section with the inclusion of the added economic impact of two institutions within the Kansas City region but outside the immediate metropolitan area.

Finally, the appendices include a list of participating institutions, additional technical detail and definitions, and the survey and calculation procedures used in the study.

Questions and concerns regarding the study should be directed to:

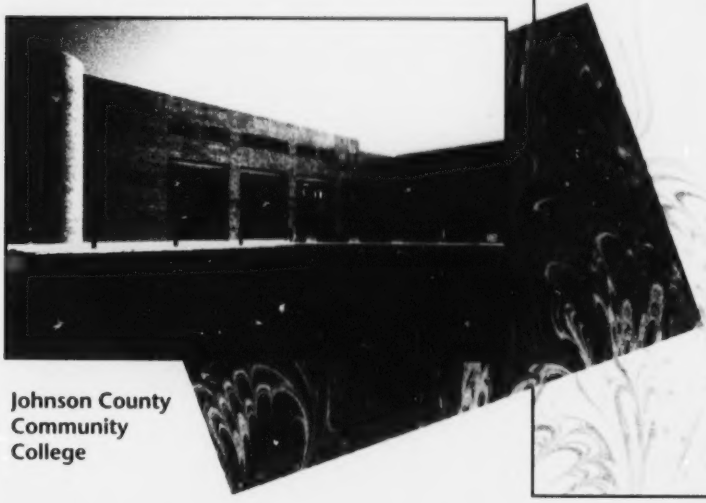
Dr. Jeff Seybert
Director, Research, Evaluation, and
Instructional Development
Office of Institutional Research
Johnson County Community College
12345 College at Quivira
Overland Park, KS 66210-1299
(913) 469-8500, ext. 3442

Acknowledgments

This study was the initiative of Kansas City Regional Council for Higher Education (KCRCHE) Institutional Research Directors' Group. Without their sponsorship and leadership, it could not have been completed. Also, the support and encouragement of the KCRCHE Board of Directors; the KCRCHE president, Dr. Larry Rose; and vice president, Dr. Russ Wilson, were greatly appreciated.

In addition, completion of the study would not have been possible without the efforts of the data collection coordinators on each campus: Jo Adams, St. Mary College; Ron Cattelino, Kansas City Art Institute; Dr. Ken Crow, MidAmerica Nazarene College; Sister Marie Georgette Eschbacher, Avila College; Dr. Andrew Falcone, Metropolitan Community College District; Dr. Marge Ford, University of Missouri-Kansas City; Paul Gault, Park College; Steve Goceljak, Donnelly College; Sandra Hader, William Jewell College; Dr. Don Nimmer, Central Missouri State University; Dr. Joyce Smith, Rockhurst College; Ron Spangler, University of Kansas Medical Center; Pat Sumner, Johnson County Community College; John Schott, University of Kansas-Lawrence Campus; and Dr. Charles Van Middlesworth, Kansas City Kansas Community College.

Finally, the project was made possible by the Johnson County Community College Board of Trustees and president, Dr. Charles Carlsen, who granted a sabbatical leave to Dr. Jeff Seybert, project director, so that the study could be conducted.



Johnson County Community College

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Introduction

In the spring of 1990, the Kansas City Regional Council for Higher Education (KCRCHE) Institutional Research Directors' Group formally requested that KCRCHE undertake a study of the economic impact of higher education on the Kansas City metropolitan area. The following is the report of that study.

Rationale

Colleges and universities in the Kansas City metropolitan area identify the educational outcomes that they intend their efforts to produce in their individual mission statements. These products are most often benefits to students, such as preparation for academic studies leading to a bachelor's degree, preparation for employment in skilled jobs and career positions, and general educational and personal development. Also, benefits to the local community, such as a skilled workforce, technical expertise required by local agencies and businesses, and cultural and recreational enrichment are commonly mentioned as intended results. These are the most important reasons for which institutions of higher education exist, and the success of these institutions is appropriately measured by their ability to produce these fundamental educational and community service benefits.

In addition to providing educational benefits, colleges and universities also provide major economic benefits to their communities. Some of these benefits are significant but impossible to measure—for instance, it is nearly impossible to place a dollar value on the economic benefit derived from having a trained and educated workforce available for local businesses, or the value of the drawing power and contribution to a community's economic development resulting from the existence of a college or university in the community. Nonetheless, many of the economic benefits provided to the local community by colleges and universities are tangible, and their value is possible to estimate.

It was the purpose of this study to estimate the tangible, positive economic benefits, or impact, that higher education institutions located in the Kansas City metropolitan area have on the local economy.

Economic Impact Studies

Since the early 1970s, numerous studies have been conducted to estimate the economic impact that institutions of higher education have on the communities in which they are located. Several models have been developed to conduct such studies, but most are related to the economic impact model developed by Caffrey and Isaacs in 1971 under the sponsorship of the American Council on Education (ACE).

The Caffrey and Isaacs model has been widely accepted and used in economic impact studies in four-year colleges and universities as well as in community colleges. However, it has several shortcomings in terms of estimating the economic impact of the wide range of postsecondary institutions. For example, Caffrey and Isaacs assert that part-time students have relatively little economic impact. It is widely known, however, that part-time students usually constitute a significant portion of headcount enrollment in most urban/suburban institutions and thus they play a significant role in the economic impact of those colleges and universities. In addition, much of the data in the Caffrey and Isaacs model is collected via surveys of faculty and students. Such surveys have notoriously low response rates. For example, Elliott, Levin and Meisel (1988) report response rates of 28.0% to 47.9% using the Caffrey and Isaacs approach. The reliability and validity of estimates of economic impact based on such low response rates are clearly open to question.

For these reasons, Ryan (1983) developed a derivative version of the Caffrey and Isaacs model which was implemented in a statewide study of the community colleges in New Jersey. This Ryan-New Jersey model has subsequently been used to determine the economic impact of the community colleges in several other states. Thus, the Ryan-New Jersey model, modified to be more directly applicable to urban/suburban colleges and universities, was chosen for use in determining the economic impact of higher education on the Kansas City metropolitan area because it employs an established methodology utilizing collection of a standard set of data readily available from a variety of reliable, public sources.

Methodology

The Model

The model used in this study includes four major components of the estimated direct economic impact of postsecondary institutions on the metropolitan area in which they are located:

1. Direct institutional expenditures in the metropolitan area
2. Direct expenditures of college/university employees in the metropolitan area
3. Direct expenditures of students in the metropolitan area
4. Direct expenditures of campus visitors in the metropolitan area

In addition to the direct economic impact of these expenditures, the model assumes that the indirect economic impact resulting from the additional business volume generated by these direct expenditures can be estimated by a multiplier that depends upon the size of the geographical area of interest—in this case, the metropolitan area. So the basic formula of the model used in this study is as follows:

Total metropolitan area expenditures by the institution

Plus

Total metropolitan area expenditures by employees

Plus

Total metropolitan area expenditures by students

Plus

Total metropolitan area expenditures by campus visitors

Times

A multiplier (2.25 for the metropolitan area) to account for additional business volume generated

Equals

Total Economic Impact

These totals for each participating institution were then summed to yield an overall total for the metropolitan area. In addition, the model also allows calculation of the number of full-time jobs which can be attributed to the economic activity generated by institutions of higher education.

Figure 1 depicts the major components of this model.

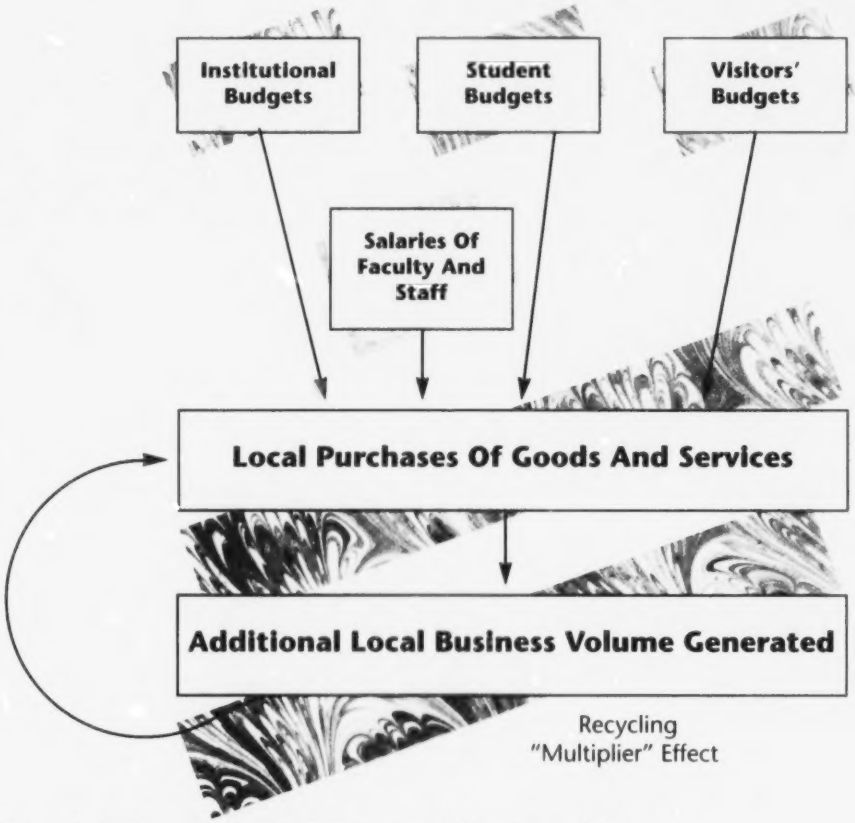


Figure 1. Basic components of an economic impact model

Procedure

Twelve colleges and universities and the University of Kansas Medical Center in the immediate Kansas City metropolitan area and two additional institutions in the Kansas City region which lie outside the immediate metropolitan area were identified to participate in the study (Appendix 1). A data collection coordinator was selected for each participating institution by its upper level administration. These individuals were responsible for the coordination, collection, and verification of the data for their respective institutions. Data were reported on a standard survey form (Appendix 3) and compiled on a worksheet for each institution (Appendix 4). Overall measures of economic impact for all institutions were then aggregated from those worksheets.

The Multiplier

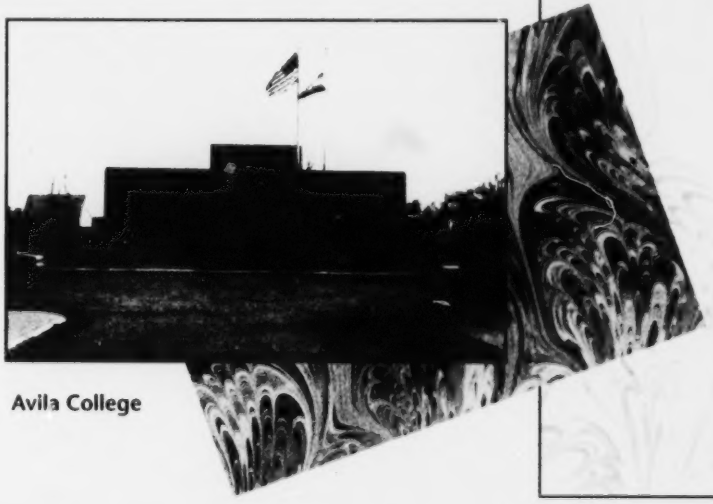
The multiplier is an indispensable feature of all economic impact models. It is used to estimate the indirect business volume that is generated as a result of direct expenditures made into the economy of a specified geographic area. It is a key concept because its effect may constitute 50 percent or more of the total economic impact calculated by such models.

The following scenario explains the concept of the multiplier. For each dollar of initial spending in the metropolitan area's economy, approximately $.70 is re-spent within the metropolitan area by businesses and individuals for goods and services from other metropolitan area businesses and individuals. The balance is removed from the economy by taxes, savings, and spending for goods and services originating from outside the metropolitan area. But this is only the first round of transactions. The income accruing to metropolitan area residents from this round of transactions is partially respent within the metropolitan area's economy. Again, some is saved, paid out in taxes, and spent outside the metropolitan area; but on the average, $.35 remains in the metropolitan area's economy. This recycling process continues with diminishing increments at each cycle. Eventually, the ratio of total spending to initial, direct expenditures can be estimated to be approximately 2.25 to 1.0.

Thus, the multiplier represents the percent of each dollar spent in the local business economy which is then re-spent within the business community in successive rounds of spending.

Other economic impact studies concerned with geographic areas the size of counties use multipliers ranging from 1.9 to 3.0. Similarly, studies with areas the size of states use multipliers which range up to 4.0. Since this study employed a seven-county definition of the immediate Kansas City metropolitan area (Johnson, Wyandotte, and Leavenworth counties in Kansas; and Jackson, Clay, Platte, and Cass counties in Missouri) the size of the geographic area of interest lies between that of a county and a state. Thus, this study used a relatively conservative multiplier of 2.25.

Figure 2 on page 8 provides a graphic representation of the recycling process that forms the basis for the concept of the multiplier.



Avila College

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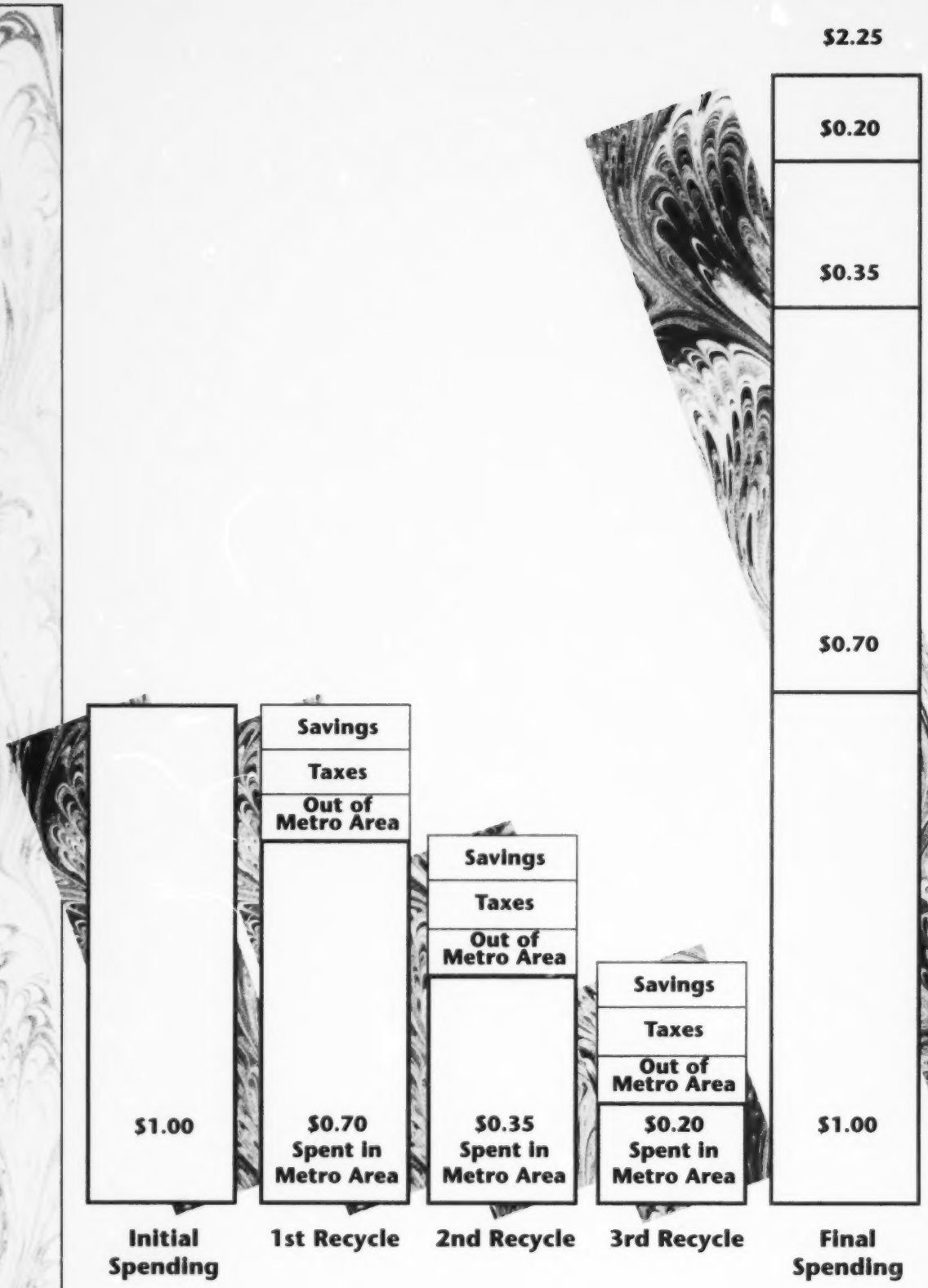


Figure 2. How the multiplier works

Conservative Nature of the Study

In addition to the choice of a conservative multiplier, this particular study (and the Ryan-New Jersey model in general) was constructed in such a way as to guarantee a very conservative estimate of the economic impact of higher education in the Kansas City metropolitan area.

Specifically, the model used in this study estimates only five major components of each institution's tangible economic impact: the economic impact of the direct expenditures of the institution, the direct expenditures of employees, the direct expenditures of college students, the direct expenditures of campus visitors, and the indirect business volume generated by these expenditures.

This model does not attempt to measure the economic impact of lesser (but nonetheless significant) components, such as the expansion of local banks' credit bases by college/university-related deposits, increases in sales and property taxes collected by local governments due to college/university-related expenditures, employee investments in local property, and numerous other tangible but difficult-to-measure impacts. Thus, the estimates made by this study were, by their nature, quite conservative.

Estimates of economic impacts made in this study were also conservative in that in all cases where a choice among equally justifiable alternatives was required, the most conservative estimate was made.

In addition, full-time student expenditures were estimated using the most conservative figures available for all students (the federal financial aid guidelines for a dependent student living at home), while estimates of part-time student expenditures included only those for books and supplies and transportation to and from classes.

Thus, both the nature of the model and the inclinations of the researchers assured that estimates made of the tangible economic impact of higher education on the Kansas City metropolitan area were quite conservative.

Major Findings

Tangible Economic Impact

The economic impact of higher education on the economy of the immediate Kansas City metropolitan area in 1988-89 was estimated to be:

Institutional Expenditures	$129,283,528
Employee Expenditures	$108,217,877
Student Expenditures	$204,148,338
Visitors' Expenditures	$6,388,684
Total Direct Economic Impact	**$448,038,427**

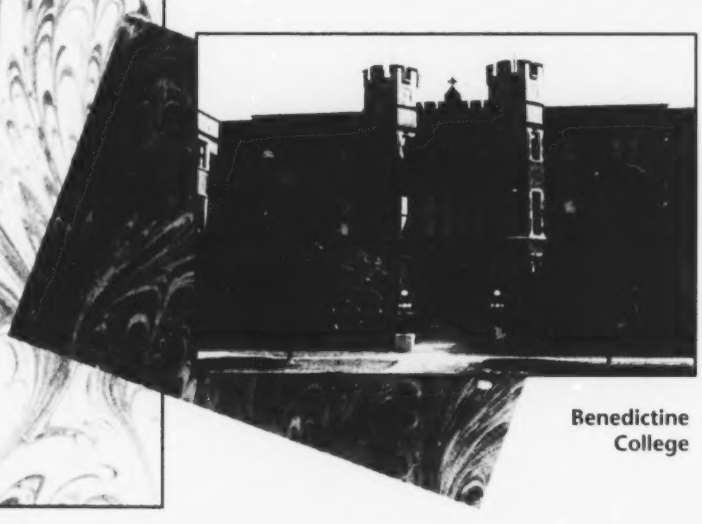
Nearly 500 million dollars of the metropolitan area's economy in 1988-89 was a direct result of spending by higher education institutions, their students, employees, and visitors.

This total spending was recycled through the metropolitan area's economy in several rounds of spending. This multiplier effect produces:

Total Tangible Economic Impact.....$1,008,086,460

In other words, a business volume of more than $1 billion was generated in the Kansas City metropolitan area in 1988-89 by the expenditures of higher education institutions, their students, employees, and visitors.

These findings are depicted in Figure 3 on page 11.



Benedictine College

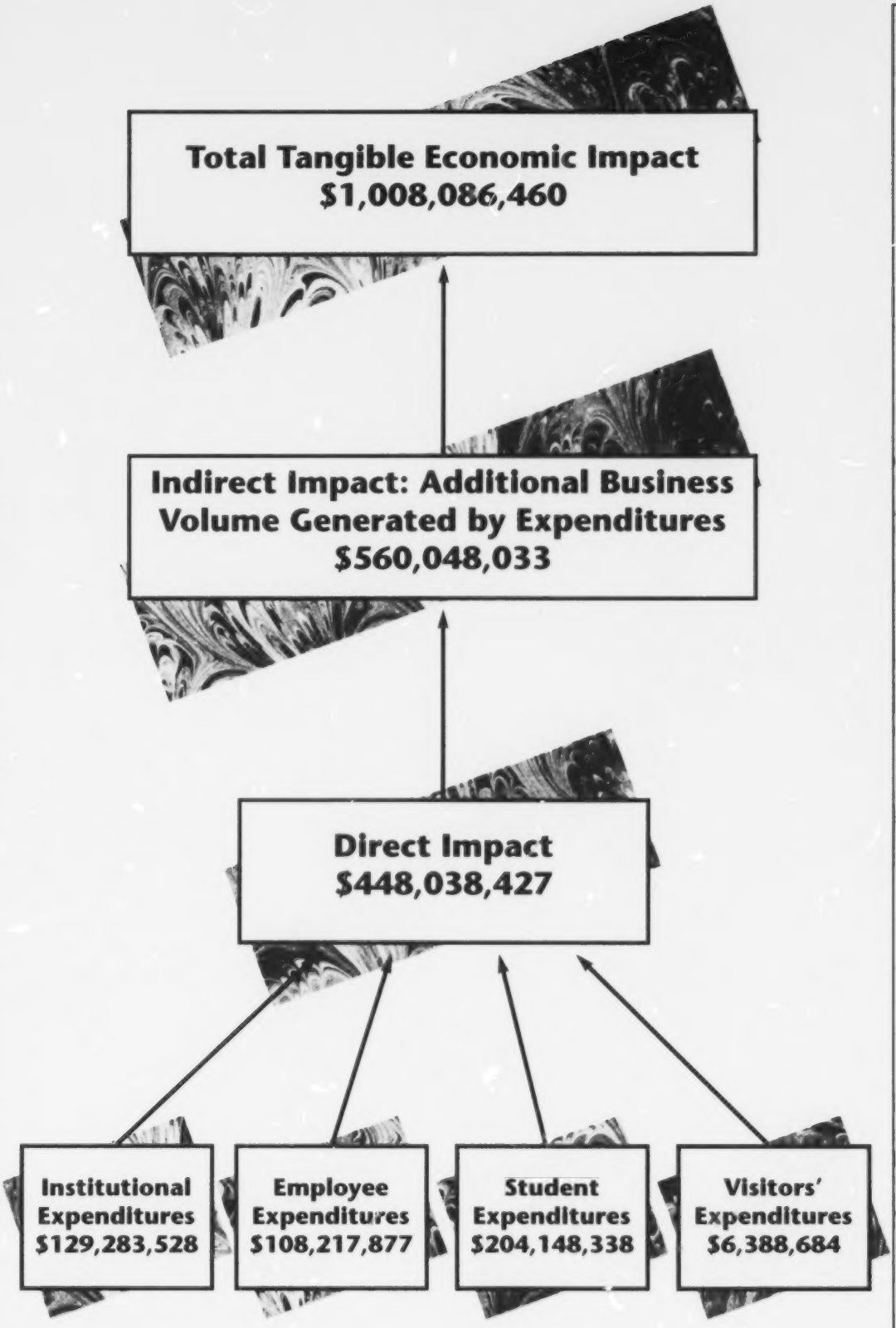


Figure 3. Total tangible economic impact of higher education on the Kansas City metropolitan area

Full-time Jobs Related to Higher Education

In addition to the business volume they generate, institutions of higher education also contribute a significant number of full-time jobs to the Kansas City metropolitan area economy.

Full-time Employees 9,524

Full-time Jobs
Related to Higher Education.....31,363

Total Full-time Employment.....40,887

Thus, institutions of higher education and their associated business volume generated an estimated 40,887 full-time jobs in the immediate Kansas City metropolitan area in 1988-89.

Return on Taxpayer Investment: Public Institutions

The total tangible economic impact of higher education outlined above represents the contributions of both public and private institutions in the Kansas City metropolitan area. However, only the public institutions receive direct support from taxpayers.

These public higher education institutions received $222,000,931 in state and local support in 1988-1989. The ratio of those institutions' total tangible economic impact to taxpayer support is thus:

$828,044,301 / $222,000,931 = 3.73 to 1.0.

In other words, for every dollar spent by taxpayers in support of public higher education in 1988-89, $3.73 was returned to the Kansas City metropolitan area's economy. Further, this figure includes only the tangible economic return on taxpayer investment, and does not include the educational, service, or intangible economic benefits provided by this investment.

Central Missouri State University

The Added Impact of Outlying Institutions

The foregoing discussion outlined the economic impact of higher education institutions located in the immediate seven-county Kansas City metropolitan area defined earlier (Johnson, Wyandotte, and Leavenworth counties in Kansas; and Jackson, Clay, Platte, and Cass counties in Missouri). There are additional institutions which lie just outside this immediate metropolitan area which also, of course, contribute to the area's economy. While inclusion of all of these institutions in the present study was not feasible, data from two, The University of Kansas-Lawrence Campus and Central Missouri State University, were included to provide an example of the economic impact of higher education in the greater Kansas City region.

Tangible Economic Impact:
The economic impact of higher education on the economy of the greater Kansas City metropolitan region in 1988-89 was estimated to be:

Institutional Expenditures.....$263,715,625

Employee Expenditures.....$159,572,845

Student Expenditures.....$336,415,128

Visitors' Expenditures.....$25,288,774

Total Direct Economic Impact.....$784,992,372

Over $780 million of the region's economy in 1988-89 was a direct result of spending by higher education institutions, their students, employees, and visitors.

This total spending was recycled through the region's economy in several rounds of spending. This multiplier effect produces:

Total Tangible Economic Impact.....$1,766,232,837

In other words, a business volume of more than $1.75 billion was generated in the greater Kansas City region in 1988-89 by the expenditures of these higher education institutions, their students, employees, and visitors.

Full-time Jobs Related to Higher Education
In addition to the business volume they generate, institutions of higher education also contribute a significant number of full-time jobs to the Kansas City regional economy.

Full-time Employees 13,873

Full-time Jobs Related to Higher Education.....54,949

Total Full-time Employment.....68,882

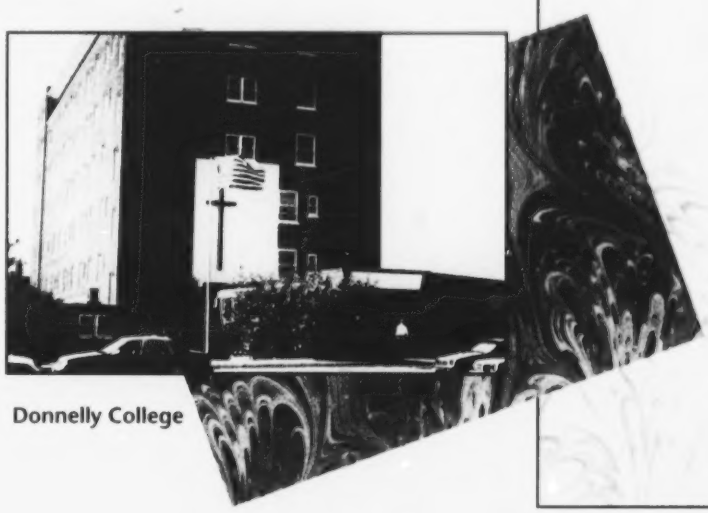
Thus, institutions of higher education and their associated business volume generated an estimated 68,882 full-time jobs in the greater Kansas City region in 1988-89.

Return on Taxpayer Investment: Public Institutions
As noted earlier, the total tangible economic impact of higher education represents the contributions of both public and private institutions. However, only the public institutions receive direct support from taxpayers.

These public higher education institutions in the greater Kansas City region received $345,317,370 in state and local support in 1988-1989. The ratio of those institutions' total tangible economic impact to taxpayer support is thus:

$1,586,190,678 / $345,317,370 = 4.59 to 1.0.

In other words, for every dollar spent by taxpayers in support of public higher education in 1988-89, $4.59 was returned to the Kansas City regional economy. As for the institutions in the immediate Kansas City metropolitan area, this figure includes only the tangible economic return on taxpayer investment, and does not include the educational, service, or intangible economic benefits resulting from this investment.



Donnelly College

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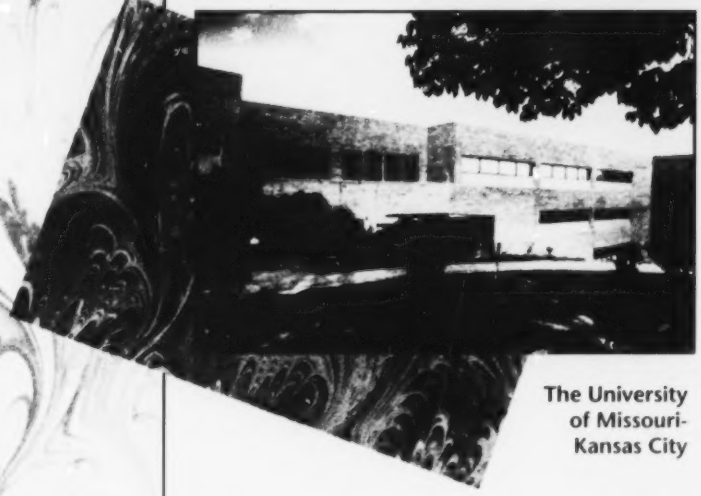


The University of Missouri-Kansas City

Kansas City Art Institute

Kansas City Kansas Community College

Summary

This report has presented, in a simplified fashion, the results and methodology of the study of the economic impact of higher education on the Kansas City metropolitan area. Detailed descriptions of the methodology of the study, the actual data points and calculations used to derive the results, and specific bibliographic references may be found in the appendices. Copies of the report are available from the Kansas City Regional Council for Higher Education, (913) 341-4141, or Johnson County Community College, Office of Institutional Research, (913) 469-8500.

Appendices

APPENDIX 1 List of Participating Institutions

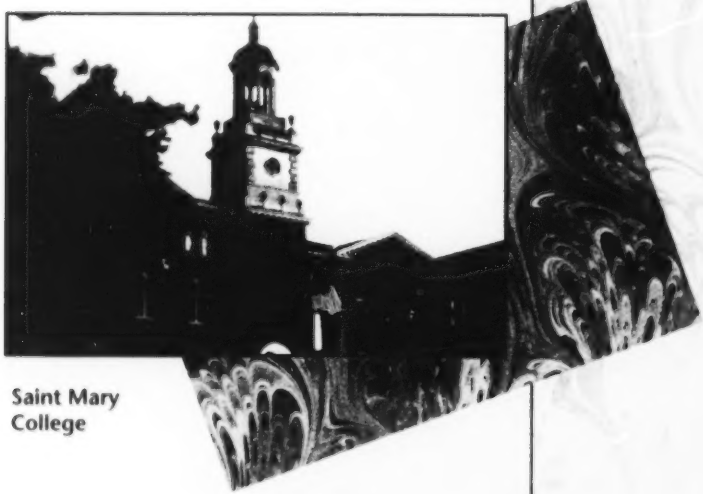
APPENDIX 2 Additional Technical Detail and Definitions

APPENDIX 3 KCRCHE Economic Impact Study Survey

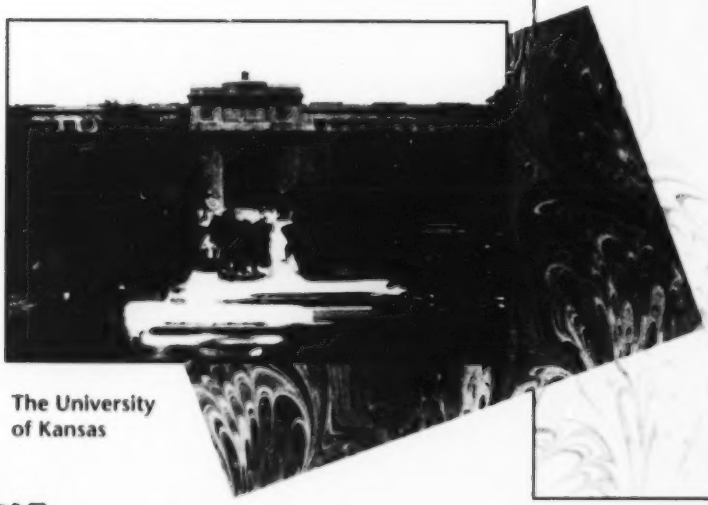
APPENDIX 4 KCRCHE Economic Impact Study Worksheet (Immediate Kansas City Metropolitan Area)

APPENDIX 5 KCRCHE Economic Impact Study Worksheet (Including Selected Outlying Institutions)

APPENDIX 6 References



Saint Mary College



The University of Kansas

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Appendix 1

List of Participating Institutions

Avila College

Central Missouri State University

Donnelly College

Johnson County Community College

Kansas City Art Institute

Kansas City Kansas Community College

Metropolitan Community College District

MidAmerica Nazarene College

Park College

Rockhurst College

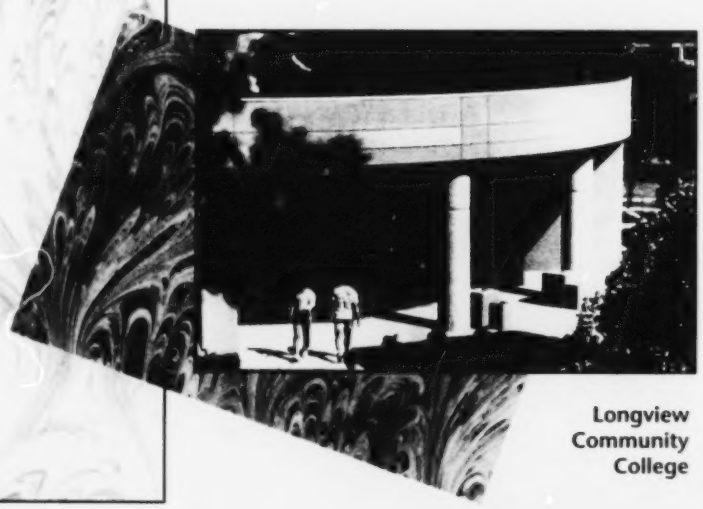
St. Mary College

University of Kansas-Lawrence Campus

University of Kansas Medical Center

University of Missouri-Kansas City

William Jewell College



Longview Community College

Appendix 2

Additional Technical Detail and Definitions

The Economic Impact Model

The economic impact model used in this study was a modified version of the model adapted by Ryan and implemented in New Jersey in 1983 after an exhaustive review of previous economic impact studies. It is different from previous models in that it greatly reduces the complexity of the submodels and simplifies the data collection process. Thus, it is well suited for use in urban/suburban colleges and universities. Ryan has also demonstrated that results derived using this simplified model are comparable to those derived using the more generic Caffrey and Isaacs model (the acknowledged parent of economic impact models for institutions of higher education) and its various adaptations.

The simplification of more complex models that characterizes the Ryan-New Jersey model used in this study is accomplished primarily by using existing data from federal, state, and local sources to substitute for surveys of college employees and students and to replace the extremely complex "retail gravity model" that is commonly used to estimate the percentage of expenditures made by employees or students in a specified geographic area.

For instance, existing data sources were used rather than surveys of college/university employees to determine how many rented their residences, how much they spent on non-housing items, and how much they spent on non-housing items in the metropolitan area. For example, average annual Kansas City metropolitan area rent was obtained from the Mid-America Regional Council (MARC) Research Data Center. The percentage of employees who rented was assumed to be the same as the county average, and this average was available from the same source. The percentage of disposable income that employees spent on non-housing items was also assumed to be representative of the metropolitan area and was obtained from the "Consumer Expenditure Interview Survey" Midwest Region, Fourth Quarter, 1987, published by the U.S. Department of Labor, Bureau of Labor Statistics.

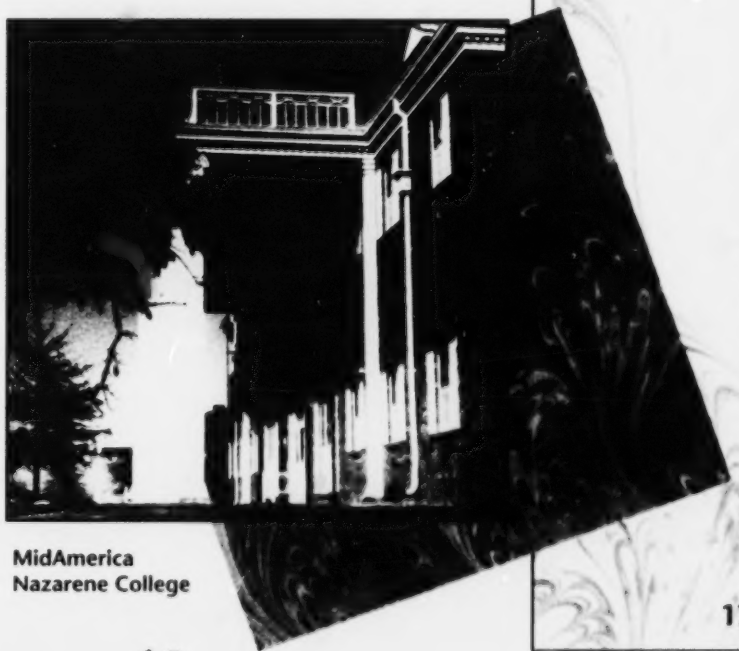
Other examples and explanations of the data used in this study are contained in the following section.

Definitions

Critical to the consistent application of the model were definitions of key terms. The survey instrument defined the data to be collected, including the sources for them. The following are explanations of the general components of the model:

Direct Expenditures of the Institution: This included all of the expenditures the institution made to businesses and other contractors for such items as supplies, utilities, materials, equipment, building projects, services and numerous other items, excluding taxes and payments made to employees. The location of these expenditures was determined by the address of each vendor.

Direct Expenditures of Employees: This component of the model was determined by calculating the total disposable income of employees, i.e., summing all payments made by the institution to them, excluding taxes withheld and mandatory retirement deductions. Then, the percentage of this total disposable income employees spent on non-housing items in the metropolitan area was calculated for those who were residents of the metropolitan area. To this was added the metropolitan area expenditures of non-resident, full-time employees of the institution – estimated at a very conservative constant of $1,000 per year. Finally, the housing rental expenditures of resident, full-time employees were calculated and added to the total.



MidAmerica Nazarene College

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Payments by full-time employees for home mortgages and related interest and taxes were considered investments and not included in the calculations of employees' expenditures. Also, expenditures of part-time employees who were not residents of the metropolitan area were excluded from the figure and only a token amount was included for the expenditures of non-resident, full-time employees. As a result, this calculation provided a very conservative estimate of the expenditures of employees, and only considered those that were derived from salaries actually paid by the institution.

Direct Expenditures of Students: Student expenditures were estimated for only those activities related to their attendance at the institution, excluding payments made for tuition and fees. For full-time students (12 credit hours or more), who were assumed to reside in the metropolitan area because they were students, these expenditures included books, education-related supplies, transportation and a living allowance for room and board. Rather than depending upon surveys of students to determine average expenditure for these items, the federal financial aid guidelines for a full-time student living at home as a dependent of his or her parents (the most conservative figures available) were used. These guidelines are developed and approved for each institution disbursing federal financial aid monies.

For part-time students (less than 12 credit hours), only those costs for books, education-related supplies and transportation to and from classes were included as education-related expenditures.

Rockhurst College

Direct Expenditures of Campus Visitors: Visitors' expenditures were defined as expenditures for lodging, meals, and incidentals by visitors from *outside the Kansas City metropolitan area* who visited the campus for sporting events, cultural events, commencement, or as visiting faculty, continuing education students, job applicants, or hospital visitors. These figures were either obtained from actual records or derived using the average expenditures of out-of-area visitors supplied by the Kansas City Convention and Visitors Bureau.

Full-time Jobs Related to Institutional Spending

Higher education institutions in the immediate Kansas City area employed 9,524 individuals in full-time positions in fiscal 1988-89. In addition to these jobs, direct institution-related expenditures and the additional indirect business volume generated by those expenditures in the economy created additional employment. Economists estimate that .00007 full-time jobs are created for each dollar added directly to an economy (Caffrey & Isaacs, 1971). Spending related to higher education, then, generated an additional 31,113 full-time jobs in the immediate Kansas City metropolitan area which, added to the 9,524 full-time employees of the participating institutions, results in a total of 40,637 full-time positions.

The participating outlying institutions employed 4,349 individuals in full-time positions in fiscal 1988-89. Using the above calculations, the expenditures of these institutions generated another 23,586 full-time positions. Thus, these institutions account for a total of 27,935 full-time positions.

The total number of full-time jobs in the greater Kansas City metropolitan region that can be attributed to higher education is the sum of the actual number of full-time positions and the number generated by expenditures of the institutions, their employees, and their students. Thus, higher education generated an estimated 68,572 full-time jobs in the greater Kansas City region in 1988-89.

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Appendix 3

KCRCHE Economic Impact Study Survey
Data Requirements

The following information is required in order to calculate the economic impact of a college or university of the Kansas City Metropolitan Area.

Information Required

1. Institutional expenditures

$_____

Directions/Source of Information

Includes total college expenditures for the fiscal year ending June 30, 1989, (or other date in 1989 as appropriate) – including student activities expenditures, building projects, etc. – but excludes the following:

a. all salaries paid to employees

b. all internal transfers (that are not then expended externally)

c. all taxes

Source: Use 1988-89 fiscal year audit or Fiscal Year 1989 IPEDS Financial Report, line for "total current fund operating expenditures and mandatory transfers," minus exclusions listed above, and add expenditures for building projects, capital, etc.

[Add lines B22(3) + G03 + G05 + M03 + M04 from IPEDS F1, pages 2, 4, and 6 respectively.]

All institutions should also add expenditures by college/university foundations and endowment offices/associations if not reflected in the above total.

(K.U. Medical Center should also add Affiliated Research Expenditures and Physicians Corporations/Endowment Association Expenditures.)

Information Required	Directions/Source of Information
2. Percentage of institutional expenditures spent– a. in the Kansas City metropolitan area: _____%	There are two methods of deriving this information from college business records: a. calculate actual total expenditures in the metropolitan area for fiscal 1988-89 b. examine three months of activity (in three different quarters) to determine average percentage spent in the metropolitan area. Identify expenditures by addresses of vendors.
3. Number of employees– a. full-time: _____ b. part-time: _____ c. TOTAL: _____	Use end of 1988 calendar payroll records, W-2 submissions, or 1988-89 annual budget and data to determine all college employees during 1988 or fall semester, 1988. (Include both full- and part-time student employees.)
4. Employees who live in the metropolitan area– a. full-time: _____ b. part-time: _____ c. TOTAL: _____	Use address information on payroll records or in the college directory. If data on part-time employees are not available, assume the same percentage of part-time employees live in the metropolitan area as do full-time employees.
5. Total disposable income available to employees $_____	Use end of 1988 calendar year payroll records/W-2 forms to determine total money paid directly to all employees, including payments/deductions for employee paid fringe benefits (i.e., health insurance, voluntary annuities, credit union deductions, etc.) but excluding all taxes withheld (i.e., city, state, federal, social security) and all mandatory retirement deductions. K.U. Medical Center should add income of Physician Corporations staff.

Information Required	Directions/Source of Information
6. Number of students – a. full-time: _____ b. part-time: _____ c. TOTAL: _____	Use total headcount enrollment figures for the official census day of the fall, 1988 semester. This should be available on IPEDS forms, state reports and/or internal audits. Identify both full-time and part-time students defined as follows: a. full-time students – enrolled in 12 or more credit hours b. part-time students – enrolled for less than 12 credit hours a. full-time: [Add lines 05 (13) and 05 (14) on IPEDS EF2, Part A, page 1 (four-year) or Lines 08 (15) and 08 (16) on IPEDS EF2, Part A, page 1 (two-year)] b. part-time: [Add lines 10 (13) and 10 (14) on IPEDS EF2, Part A, page 1 (four-year) or lines 22 (15) and 22 (16) on IPEDS EF2, Part A, page 1 (two-year)] c. TOTAL: Add a and b above
7. Number of students who live in on-campus housing (i.e., dormitories, etc.) _____	Use housing records for the fall semester, 1988 to determine the total, unduplicated number of students who resided in on-campus housing during the fall semester.
8. Average annual room and board expenditure for students who live in on-campus housing (i.e., dormitories, etc.) _____	Use on-campus housing records as in number 7.
9. Average annual room and board expenditures for full-time students who *do not* live in on-campus housing _____	Part D, Line 9.C. on IPEDS IC1, page 6 (four-year) or Part D, Line 8.C., on IPEDS IC2, page 5 (two-year).

Information Required	Directions/Source of Information
10. Average annual non-housing education-related expenditures by full-time students $_____	Add lines 9.A., 9.B., and 9.D. on IPEDS IC1, Part D, page 6 (four-year) or add lines 8.A., 8.B., and 8.D. on IPEDS IC2, Part D, page 5 (two-year) (i.e., books, transportation, and miscellaneous expenses).
11. Average annual non-housing education-related expenditures by part-time students $_____	Add lines 9.A. and 9.B. on IPEDS IC1, Part D, page 6 (four-year) or add lines 8.A. and 8.B. on IPEDS IC2, Part D, page 5 (two-year) (i.e., books and transportation).
12. Visitors' expenditures $_____	Include expenditures for lodging, meals, and incidentals by visitors from outside the Kansas City metropolitan area. Such individuals might visit for sporting events, cultural events, be visiting faculty, continuing education students, job applicants, commencement visitors, or (for K.U. Medical Center) hospital visitors.
13. Total local taxes received (city, county, etc.) $_____	Available from institutional records and/or state department of education.
14. Total state taxes received $_____	Same as number 13.

Appendix 4
KCRCHE Economic Impact Work Sheet
(Immediate Kansas City Metropolitan Area)

Data Element	Source/ Formula	
1. Total institutional expenditures	SQ#1	$249,676,174
2. % expenditures in metropolitan area	SQ#2a	*
3. TOTAL INSTITUTIONAL EXPENDITURES IN METROPOLITAN AREA	R1xR2	$129,283,528
4. Employees' total disposable income	SQ#5	$245,068,910
5. Total institutional employees	SQ#3c	18,493
6. Total institutional employees in metropolitan area	SQ#4c	16,717
7. % employees in metropolitan area	R5/R6	90.40%
8. % non-housing expenditures for metropolitan area	See Note 1	75.85%
9. % of residents' expenditures in metropolitan area	See Note 2	56.32%
10. Employees' non-housing expenditures in metropolitan area	R4xR7xR8xR9	$94,604,032
11. Total full-time employees	SQ#3a	9,524
12. Full-time college employees in metropolitan area	SQ#4a	9,121
13. Non-housing expenditures of full-time, out-of-metropolitan area employees	(R11-R12)x1,000	$403,000
14. % metropolitan area residents who rent	See Note 3	32.71%
15. Average annual metropolitan area rent	See Note 3	$4,42816.
16. Rental expenditures of full-time employees in metropolitan area	R12xR14xR15	$13,210,845
17. TOTAL EMPLOYEES' EXPENDITURES IN METROPOLITAN AREA	R10+R13+R16	$108,217,877
18. Number of full-time students	SQ#6a	25,044
19. Number of part-time students	SQ#6b	35,795
20. Number of students in on-campus housing	SQ#7	2,910
21. Average annual room and board expenses in on-campus housing	SQ#8	*
22. Annual room and board expenditures for all students in on-campus housing	R20xR21	$8,354,490
23. Average annual room and board expenses for full-time students who do not live in on-campus housing	SQ#9	*
24. Number of full-time students who do not live in on-campus housing	R18-R20	22,134

Data Element	Source/ Formula	
25. Annual room and board expenditures for all full-time students not living in on-campus housing	R23xR24	$71,712,590
26. Average annual non-housing, education-related expenditures for full-time students	SQ#10	*
27. Average annual non-housing, education related expenditures for part-time students	SQ#11	*
28. Total non-housing, education-related expenditures for full-time students	R18xR26	$72,031,310
29. Total non-housing, education-related expenditures for part-time students	R19xR27	$52,049,948
30. TOTAL STUDENTS' EXPENDITURES	R22+R25+R28+R29	$204,148,338
31. TOTAL VISITORS' EXPENDITURES	SQ#12	$6,388,684
32. TOTAL DIRECT ECONOMIC IMPACT ON METROPOLITAN AREA	R3+R17+R30+R31	$448,038,427
33. TOTAL ECONOMIC IMPACT ON METROPOLITAN AREA	R32x2.25	$1,008,086,460
34. TOTAL INDIRECT ECONOMIC IMPACT ON METROPOLITAN AREA	R33-R32	$560,048,033
35. FULL-TIME JOBS RELATED TO JCCC IN METROPOLITAN AREA	R32X.00007	31,363
36. TOTAL FULL-TIME EMPLOYMENT RELATED TO JCCC IN METROPOLITAN AREA	R11+R35	40,887
37. Total local taxes received	SQ#13	$95,880,723
38. Total state taxes received	SQ#14	$126,120,208
39. Total taxpayer investment	R37+R38	$222,000,931
40. RETURN ON TAXPAYER INVESTMENT (for public institutions only)	R33/R39	$3.73 to 1.00

NOTES

SQ = Survey Question

R = Response (Data Element) on this worksheet.

* = Response varied by institution

1. "Consumer Expenditure Interview Survey," Midwest Region, Fourth Quarter, 1987, published August 1989, by the U. S. Department of Labor, Bureau of Labor Statistics.
2. Calculated as the ratio of retail sales to effective buying income in 1988. Source data from the Johnson County Economic Research Institute Economic Data Base File.
3. "1986 Annual Housing Survey for the Kansas City Area," published by the U. S. Department of Commerce, Bureau of the Census, and the U. S. Department of Housing and Urban Development.

Appendix 5
KCRCHE Economic Impact Work Sheet
(Kansas City Metropolitan Region Including Selected Outlying Institutions)

	Data Element	Source/ Formula	
1.	Total institutional expenditures	SQ#1	$405,300,916
2.	% expenditures in metropolitan area	SQ#2a	*
3.	TOTAL INSTITUTIONAL EXPENDITURES IN METROPOLITAN AREA	R1xR2	$263,715,625
4.	Employees' total disposable income	SQ#5	$355,021,060
5.	Total institutional employees	SQ#3c	29,076
6.	Total institutional employees in metropolitan area	SQ#4c	26,901
7.	% employees in metropolitan area	R5/R6	92.52%
8.	% non-housing expenditures for metropolitan area	See Note 1	75.85%
9.	% of residents' expenditures in metropolitan area	See Note 2	56.32%
10.	Employees' non-housing expenditures in metropolitan area	R4xR7xR8xR9	$139,731,209
11.	Total full-time employees	SQ#3a	13,873
12.	Full-time college employees in metropolitan area	SQ#4a	13,311
13.	Non-housing expenditures of full-time, out-of-metropolitan area employees	(R11-R12)x1,000	$562,000
14.	% metropolitan area residents who rent	See Note 3	32.71%
15.	Average annual metropolitan area rent	See Note 3	$4,428
16.	Rental expenditures of full-time employees in metropolitan area	R12xR14xR15	$25,348,427
17.	TOTAL EMPLOYEES' EXPENDITURES IN METROPOLITAN AREA	R10+R13+R16	$159,572,845
18.	Number of full-time students	SQ#6a	53,426
19.	Number of part-time students	SQ#6b	43,537
20.	Number of students in on-campus housing	SQ#7	12,779
21.	Average annual room and board expenses in on-campus housing	SQ#8	*
22.	Annual room and board expenditures for all students in on-campus housing	R20xR21	$31,211,560
23.	Average annual room and board expenses for full-time students who do not live in on-campus housing	SQ#9	*
24.	Number of full-time students who do not live in on-campus housing	R18-R20	40,647

Data Element	Source/ Formula	
25. Annual room and board expenditures for all full-time students not living in on-campus housing	R23xR24	$128,39[illegible].310
26. Average annual non-housing, education-related expenditures for full-time students	SQ#10	*
27. Average annual non-housing, education related expenditures for part-time students	SQ#11	*
28. Total non-housing, education-related expenditures for full-time students	R18xR26	$118,900,410
29. Total non-housing, education-related expenditures for part-time students	R19xR27	$57,909,848
30. TOTAL STUDENTS' EXPENDITURES	R22+R25+R28+R29	$336,415,128
31. TOTAL VISITORS' EXPENDITURES	SQ#12	$25,288,774
32. TOTAL DIRECT ECONOMIC IMPACT ON METROPOLITAN AREA	R3+R17+R30+R31	$784,992,372
33. TOTAL ECONOMIC IMPACT ON METROPOLITAN AREA	R32x2.25	$1,766,232,837
34. TOTAL INDIRECT ECONOMIC IMPACT ON METROPOLITAN AREA	R33-R32	$981,240,465
35. FULL-TIME JOBS RELATED TO JCCC IN METROPOLITAN AREA	R32X.00007	54,949
36. TOTAL FULL-TIME EMPLOYMENT RELATED TO JCCC IN METROPOLITAN AREA	R11+R35	68,882
37. Total local taxes received	SQ#13	$95,880,723
38. Total state taxes received	SQ#14	$249,436,647
39. Total taxpayer investment	R37+R38	$345,317,370
40. RETURN ON TAXPAYER INVESTMENT (for public institutions only)	R33/R39	$4.59 to 1.00

NOTES

SQ = Survey Question

R = Response (Data Element) on this worksheet.

* = Response varied by institution

1. "Consumer Expenditure Interview Survey," Midwest Region, Fourth Quarter, 1987, published August 1989, by the U. S. Department of Labor, Bureau of Labor Statistics.
2. Calculated as the ratio of retail sales to effective buying income in 1988. Source data from the Johnson County Economic Research Institute Economic Data Base File.
3. "1986 Annual Housing Survey for the Kansas City Area," published by the U. S. Department of Commerce, Bureau of the Census, and the U. S. Department of Housing and Urban Development.

Appendix 6

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